



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Morris Samelson and Johnathan M. Scharff	ATTY DKT NO.: P-5435(DIV1)RCE
SERIAL NO.: 10/601,796	GROUP ART UNIT: 1615
FILED: June 23, 2003	EXAMINER: Lakshmi Sarada Channavajjala
TITLE: Ultra Fine Dead Sea Mineral Compound and Method of Manufacture	
TO: Commissioner of Patents P.O. Box 1450 Alexandria, VA 22313-1450	

**DECLARATION UNDER 37 C.F.R. § 1.132**

Dear Madam:

I, Johnathan M. Scharff, declare as follows:

1. I am one of the named inventors of the above referenced patent application.
2. Since March of 1996, I have been involved in the importation and distribution of Dead Sea minerals (salts) as well as the manufacturing of Dead Sea mineral consumer products.
3. The source of Dead Sea minerals is Dead Sea Works, Ltd. This company has the exclusive rights to mine the Dead Sea in Israel and serves its customers in over 60 countries.
4. The specification or Typical Composition (analysis) of unprocessed native Dead Sea salts that the Dead Sea Works, Ltd. can conform to is 31.0 – 35.0% magnesium chloride, 20.0 – 28.0% potassium chloride, 3-8.0% sodium chloride, 0.1-0.5% calcium chloride, 0.3-0.6% bromide, 0.05-0.2% sulfates, 0-0.3% insoluble minerals, and 32.0-40.0% water of crystallization. Dead Sea Works, Ltd. offers two standard grades (granularity sizes): a course grade and a fine grade. The screen analysis for the coarse grade contains 90% between 5 and 10 mesh and 90% between 1.7 and 4.0 mm. The screen analysis for the fine grade

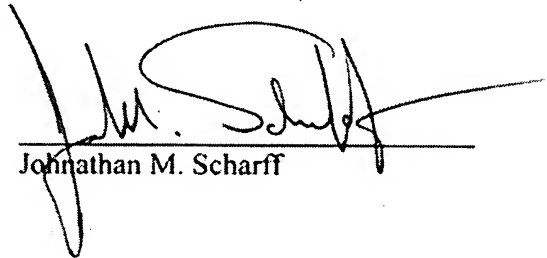
Dead Sea minerals contains 90% less than 10 mesh and 90% less than 1.7 mm.

5. This information was made known to me through my business relationship with Dead Sea Works, Ltd. and is readily confirmed by visiting its website at [www.dsw.co.il](http://www.dsw.co.il).
6. I had attempted to manufacture products utilizing the native minerals and realized that due to the varying particle sizes found in the fine grade native Dead Sea minerals, it was not possible to manufacture a desirable composition requiring no mixing prior to use that could be packaged in all types of packaging materials, even plastic tubes for convenience and maximum portability that would remain stable in suspension without rapidly settling out of the carrier medium. This was one of the advantages of the present invention.
7. I carried out an exhaustive search for a more desirable ultra-fine uniform raw material compound of Dead Sea minerals with no success. There was no such commercially available compound. Since Dead Sea Works, Ltd. was not able to provide me with Dead Sea minerals of the particular granularity in which I was interested, I endeavored to and successfully developed technology that effectively yielded such a product.
8. From extensive research it was ascertained that in fractionalizing highly ionic and hygroscopic Dead Sea minerals utilizing methods such as hammer milling, the amount of friction created in the process caused the temperature to increase significantly. This increase in temperature caused the minerals to degrade and bind into large clumps of rock soon after being processed. In order to keep such material from clumping and keep it free flowing, anti-caking ingredients needed to be added to the composition. This was unacceptable. These unnatural ingredients could cause serious health problems when contacted with human skin and are undesirable and unusable for cosmetic and skin care manufacturers, especially those seeking to manufacture all natural consumer products.
9. For this reason, I chose to utilize a conical screen mill modified to keep the amount of friction and temperature of the minerals below such critical levels. The present invention makes it possible to provide novel uniform ultra-fine granularities of Dead Sea minerals that are 100% less than 1.0 mm in granularity

size. This yields a commercially viable raw material ingredient that allows for the manufacturing of many Dead Sea products having a uniform ultra-fine granularity throughout the composition. This product can be added in significantly higher concentrations to form an esthetically acceptable cosmetic composition, giving a tremendous advantage over other products containing Dead Sea minerals of various larger and non-uniform granularity size ranges. This is a breakthrough that until the present invention was unheard of.

10. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United State Code, and that such willful false statements may jeopardize the validity of the above-referenced application or any patent issuing thereon.

01/16/07  
Date

  
Johnathan M. Scharff

## Miguel Villarreal

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**From:** MS [MSamelson@sbcglobal.net]  
**Sent:** Thursday, January 11, 2007 1:11 PM  
**To:** Miguel Villarreal  
**Subject:** Fwd: Dead Sea Salts: Typical Composition, Inquiry ex  
**Attachments:** BATH-ANA.DOC; ATT623828.htm

Begin forwarded message:

**From:** "Mazal Joseph" <mazaly@DSW.CO.IL>  
**Date:** January 10, 2007 3:58:22 AM CST  
**To:** "MS" <MSamelson@sbcglobal.net>  
**Subject:** RE: Dead Sea Salts: Typical Composition, Inquiry ex

Morris,

The typical analysis attached hereto is the only spec we can conform to.

Best Regards,

*Mazal Joseph*

Dead Sea Works Ltd.,

Marketing Division, Chemical Products

Tel: 972-8-6465632

Fax: 972-8-6280533

[mazaly@dsw.co.il](mailto:mazaly@dsw.co.il)

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**From:** MS [mailto:MSamelson@sbcglobal.net]  
**Sent:** Wednesday, January 10, 2007 11:24 AM  
**To:** Mazal Joseph  
**Subject:** Dead Sea Salts: Typical Composition, Inquiry  
**Importance:** High

Confidential email message

Good morning Mazal: I need to provide the confirmation that the "Typical Composition" referred to below (in this previously sent message) does not exist as well as a latest copy of the "Typical Composition". We are sure that this does not exist and is incorrect but please send us a response with the official data showing the true ranges of the minerals and so forth.

Hope you are doing well.

Thanks again,

Morris

1/11/2007

Previously sent on January 8, 2006:

Dear Mazal,

Would you please let us know if Dead Sea Salts, with the following Typical Composition exists;

Potassium Chloride	22 - 28%
Sodium Chloride	8 - 18%
Calcium Chloride	0.3 - 0.7%
Magnesium Chloride	30 - 34%
Water of Crystallization	26 - 30%
Bromides	0.2 - 0.4%
Sulfates	0.1 - 0.2%
Insolubles	0.2 - 0.9%

Since we started importing and distributing these minerals from you (DSW, Ltd.) in March of 1996 we have never seen this composition nor have you (DSW, Ltd.) have never offered such a composition to us. We would like to provide the information on whether this exists to someone and need your confirmation first.

Perhaps you could include the latest MSDS and Typical composition of the salts so that we can pass it along to aid in verifying the actual Typical Composition that has been supplied by DSW, Ltd. from March of 1996 (attached with your response) until today.

It would be helpful if we could put this issue to rest before mid-week and we kindly ask that you please let us know as soon as you have a moment.

Thanks and best regards,

**Morris Samelson**

**Johnathan M. Scharff**

PO Box 460743  
San Antonio, TX 78246-0743  
(210) 845-3290

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#### STATEMENT OF CONFIDENTIALITY

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The information contained in this electronic message and any attachments thereto are intended

for the exclusive use of the addressee(s) and may contain confidential or privileged information.

If you are not the intended recipient, please notify ICL Fertilizers immediately at +972-8-6465555

or by E-mail and destroy all copies of this message and any attachments.

Do not disclose the contents of this electronic message to any one, or distribute it.

Thank You.

# DEAD SEA WORKS LTD

Potash House, P.O.Box 75, Beer-Sheva 84100 Israel

MARKETING DIVISION CHEMICAL PRODUCTS



# מפעלי ים המלח בע"מ

בית האשלג, ת.ד. 75, באר-שבע 84100

אגף שיווק מוצרים כימיים

January 2004

## DEAD SEA BATH SALTS

### Typical Analysis

<u>Components</u>	<u>Formula</u>	<u>Typical(%)</u>	<u>Range (%)</u>
Magnesium Chloride	MgCl <sub>2</sub>	33.3	31.0 - 35.0
Potassium Chloride	KCl	24.3	20.0 - 28.0
Sodium Chloride	NaCl	5.5	3.0 - 8.0
Calcium Chloride	CaCl <sub>2</sub>	0.2	0.1 - 0.5
Bromide	Br <sup>-</sup>	0.5	0.3 - 0.6
Sulphates	SO <sub>4</sub> <sup>2-</sup>	0.15	0.05- 0.2
Insolubles		0.03	0 - 0.3
Water of Crystallization		36.4	32.0 - 40.0

### Screen Analysis

Fine Grade	-	90% < 10 mesh 90% < 1.7 mm
Coarse Grade	-	> 90% between 5 & 10 mesh > 90% between 1.7& 4.0 mm

Dudi Bahar  
Dead Sea Works Ltd.,  
Quality Manager & Process Engineer  
Chemical Products Division

BATH-ANA

## About Dead Sea Works



Dead Sea Works, a business unit of ICL Fertilizers, is the world's fourth largest producer and supplier of potash products, as well as a broad range of chemical products, including magnesium chloride, anhydrous aluminum chloride, industrial salts, de-icers, bath salts, table salt and raw materials for the cosmetic industry.

Dead Sea Works serves customers in over 60 countries from our manufacturing and support operations in Israel and in Spain, through our wholly-owned subsidiary, Iberpotash.

Our Dead Sea facilities in Israel are a unique natural resource, situated at the lowest point on the planet, in a region of unspoiled beauty and splendor. Here, solar energy helps us responsibly extract pure potash and other minerals from the biggest solar evaporation pond array in the world. Similarly, the mines of Iberpotash represent one of Europe's most important potash resources - and are conveniently located near the major potash consumption areas of the European Union.

These combined capabilities enable us to provide you with an uninterrupted supply and timely delivery of the high-quality potash and chemical products you require, supported by attentive, responsive service.

Dead Sea Works shares the commitment of all of ICL Fertilizers' businesses to environmental responsibility - and makes substantial investments in pursuit of ecological excellence, such as the widespread use of solar energy and preservation of the irreplaceable Dead Sea ecosystem.

[Contact Dead Sea Works](#) to discover how we can help meet your exact needs.



# Bath Salts

## Description:

The waters of the Dead Sea are unique, having a total salt concentration that is 10 times higher than ocean water, reaching 33 % versus 3 %. But that's not all! The composition of the brines is also unique, comprising magnesium, potassium and calcium chlorides, in addition to a high concentration of bromides.

This extraordinary chemical composition has made the Dead Sea an ideal spot for people seeking relief from skin and rheumatic disorders, and an equally popular choice for vacationers seeking relaxation. In fact, these soothing miracle-working waters have a reputation that dates back over 2000 years when the Roman historian Flavius noted... "The Dead Sea cannot be praised too highly... travelers take this salt home because it heals the human body and is therefore used in many medicines."

Bringing the Dead Sea's properties right into the bathtub for relaxation and relief, the widely reputed soothing effects of the Dead Sea can now be enjoyed in the privacy of one's home. Now every bathtub, hot tub, Jacuzzi and whirlpool can be a private spa, brimming with the widely reputed therapeutic benefits of the Dead Sea's life giving minerals, 24 hours a day, 365 days a year - whenever anyone, anywhere wants relief or relaxation.

Dead Sea Bath Salts can also be used as a raw material in the cosmetic industry.

## Chemical Composition:

		Typical %	Range %
Magnesium Chloride	(MgCl <sub>2</sub> )	33.3	31.0 - 35.0
Potassium Chloride	(KCl)	24.3	20.0 - 28.0
Sodium Chloride	(NaCl)	5.5	3.0 - 8.0
Calcium Chloride	(CaCl <sub>2</sub> )	0.2	0.1 - 0.5
Bromide	(Br-)	0.5	0.3 - 0.6
Sulphates	(SO <sub>4</sub> )	0.15	0.05 - 0.2
Insolubles		0.03	0 - 0.3
Water of Crystallisation		36.4	32.0 - 40.0

## Screen Analysis:

Fine Grade	90%	<1.7 mm
Coarse Grade	90%	between 1.7 & 4.0 mm

## Packing Available:

- 25 kg and 1000 kg bags.
- Minimum quantity per order is a full container load of about 20-21 Metric Tones.



## About DSW Chemical Products Division



The Chemical Products Division is responsible for the production and marketing of a variety of chemical products extracted from the minerals of the Dead Sea, including magnesium chloride (flakes and pellets), anhydrous aluminum chloride and various salt grades including table salt (NaCl). The chemical products division also produces raw materials for the cosmetic industry.

Contact DSW Chemical Products Division to discover how we can help meet your exact needs.

### Contact information:

#### Dead Sea Works - Chemical Products Division

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Israel

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